THAMESLINK

Class 319
Electric Multiple Unit

The River Thames has always been London's greatest highway - and its greatest barrier. Traditionally, the railway networks north and south of the Thames have been separated, with different traffic patterns, and different technical requirements - even different electrical systems. Now they are united with Network SouthEast's new "Thameslink" service - powered by BREL class 319 electric multiple units.

BREL is one of the world's largest manufacturers of railway rolling stock, and produces over 300 emu vehicles a year. BREL was thus the natural choice to meet the difficult challenge of designing trains for the new Thameslink routes. These are trains that must run on two widely differing electrical systems, must fit the constrained clearances of re-opened tunnels under London, and must be suited both to high-speed main line running and frequent stops in the city centre.

BREL design expertise and Network SouthEast's innovative planning have resulted in the class 319 and the Thameslink service - and a whole range of benefits for travellers going to - and through - the capital.

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Performance

The class 319 units are equipped to run on 25 kV AC supply on the lines north of the Thames, and on 750v DC with third rail pick-up south of the river. They are capable of speeds up to 160km/h on the longer runs out to Bedford and Brighton, whilst fast acceleration gives speedy service to suburban and inner-city stops. The use of microprocessor controls ensures efficient energy consumption in both types of service. Air sprung bogies give a smooth ride, and the disc braking system ensures smooth stops.
The bodyshell is based upon the proven MkIII design, acclaimed as both robust and cost-effective.

Operation

The 319's are 4-car units, and can be operated in multiple to form trains of up to 12 cars. They are fitted out for driver-only operation - thus cutting running costs and reducing manpower requirements in the capital's competitive labour market. Power-operated doors, on-train public address and train-signal-box radio are all under the control of the driver.

Interior

Internally the units are laid out to provide the maximum seating for peak-hour commuters, whilst giving plenty of comfort for passengers making longer journeys. Attractive decor, pressure ventilation and picture windows make for a pleasant journey for all travellers.

Data

Track gauge	1435mm	Max speed	160km/h
Minimum radius	70m	Total weight	144.2t
Formation	DTS (A)-PMS-ATS-DTS (B)		
Body width	2816mm	Roof height	3774mm
Car length	19330mm	Floor height	1164mm
Unit length coupled	80720mm		
Traction supply	25kV AC; 750v DC		
Traction equipment	4 x GEC G315BZ traction motors of 268kW, with microprocessor and GTO controls		
Seating	316 high back seats in 3 + 2 layout		
Standing room	Capacity for 475 standing passengers		
Parcels accommodation	Convertible area for mail and parcels traffic		
Toilets	2 per unit, with retention tanks		
Heating system	Electric heating		
Door system	Swing plug for cabs; double sliding for saloons		
Bogie type	BREL P7-4 power bogie, T3-7 trailer bogie		
Wheel diameter	925mm powered, 850 trailer		
Suspension type	Coil/rubber primary, air secondary		
Brakes	Electro-pneumatic disc		
Couplers	Tightlock between units, solid bar within sets		
Year of first delivery	1987		
Number ordered	60 x 4 car sets		

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